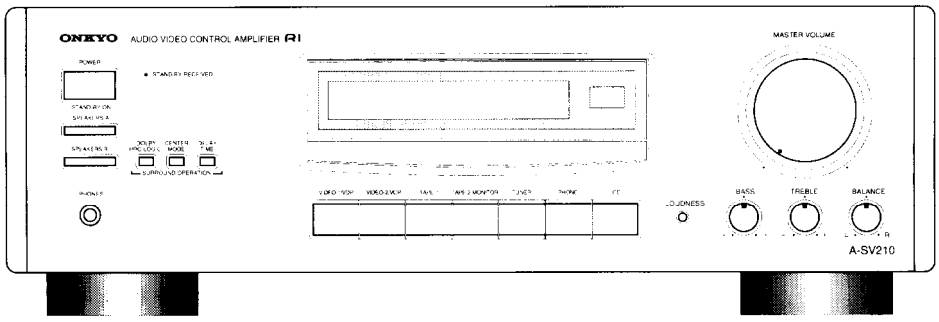
ONKYO

A-SV210

Audio Video Control Amplifier

Instruction Manual



Thank you for your purchase of the Onkyo A-SV210 Amplifier.
Please read this manual thoroughly before making connections.
Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new A-SV210.
Please retain this manual for future reference.

Features

■ **Powerful A/V Amplifier with Discrete Outputs**
Plenty of pristine power drives your home theater system to perfection. In surround mode: 60 watts per channel (8 ohms) to your front L/R and center speakers, plus 15 watts per channel to your L/R surround speakers. Stereo mode: 100 watts per channel (8 ohms). Discrete output stage circuitry for all channels contributes to your A-SV210's ability to drive low-impedance speakers safely and without degraded performance.

■ **Dolby Pro Logic Surround Sound**
Now you can experience the highest standards of video sound performance. Along with left and right front speakers and rear surround speakers, the Dolby Pro Logic decoder adds a center channel speaker dedicated to dialogue. So main voices stay right where they belong — with the picture.

■ **Input Selector for 2 Video and 5 Audio Sources**
You can connect two VCRs or a VCR and laserdisc player to your A-SV210 to easily make copies or edit tapes from one VCR to another, or record from laserdisc or TV to your VCR. And five audio inputs assure you of enough inputs for your present and future audio needs.

■ **Mono Out (Subwoofer Output)**
A line-level subwoofer output lets you connect an active subwoofer, so you can enjoy a new dimension in low-bass excitement.

■ **RI (Remote Interactive) Compatible Remote Control**
After making the appropriate connections, you can control with one remote virtually all of your A-SV210's functions, as well as the major functions of other Onkyo components bearing the RI symbol.

■ **Adjustable digital delay**
■ **Auto input balance**
■ **Loudness control**
■ **Motor-driven volume control**
■ **Muting and sleep timer (by remote)**
■ **Headphone jack**
■ **Battery-free memory backup**
■ **Anti-vibration feet and chassis**
■ **Solid aluminum front panel**

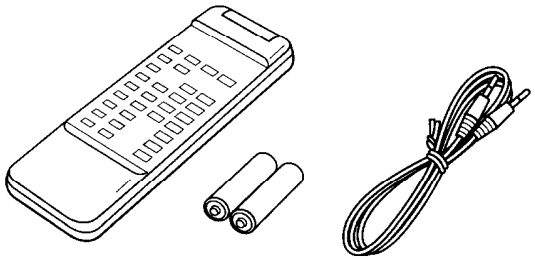
FOR CANADIAN MODEL:
(POUR LE MODÈLE CANADIEN)

- For models having a power cord with a polarized plug.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

- Sur les modèles dont la fiche est polarisée.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQ'AU FOND.



Supplied accessories
1 Remote control
2 Batteries (size AA, R6, or UM-3)
1 Remote control cable

For USA and Canada
- Manufactured under license from Dolby Laboratories Licensing Corporation.
Additionally licensed under Canadian patent number 1,037,877. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

For Other area
- Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

"WARNING"
"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

CAUTION:
"TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."

- The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important safeguards

1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** – All operating and use instructions should be followed.
5. **Water and Moisture** – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING

S3125A

7. **Wall or Ceiling Mounting** – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. **Heat** – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Polarization** – If the appliance is provided with a polarized plug having one blade wider than the other, please read the following information: The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble inserting it, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
12. **Power-Cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially near plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** – The appliance should be cleaned only as recommended by the manufacturer.
14. **Nonuse Periods** – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. **Object and Liquid Entry** – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. **Damage Requiring Service** – The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
17. **Servicing** – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Precautions

1. Warranty Card

The serial number is written on the rear panel of this unit. Copy the serial number and model number onto your warranty card and keep it in a safe place.

2. Recording Copyright

Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

3. AC Fuse

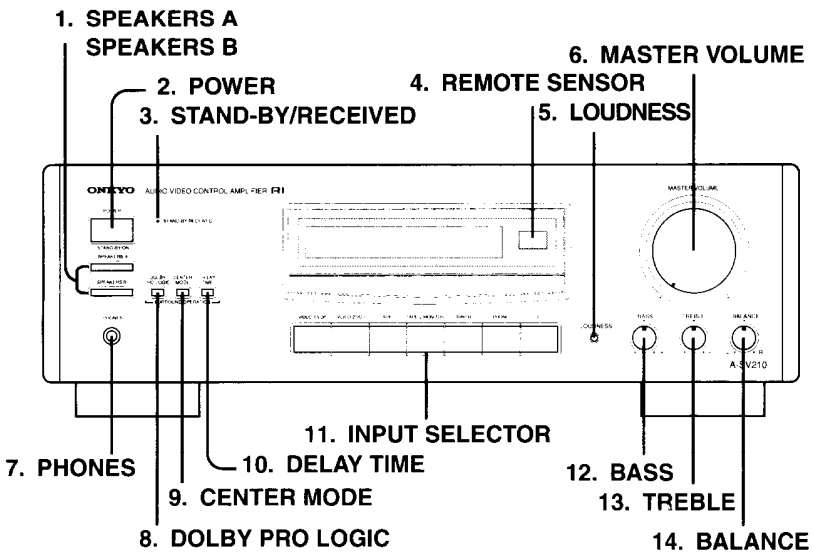
The fuse is located inside the chassis and is not user serviceable. If power does not come on, contact your Onkyo authorized service station.

4. Care

From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

Control positions and names

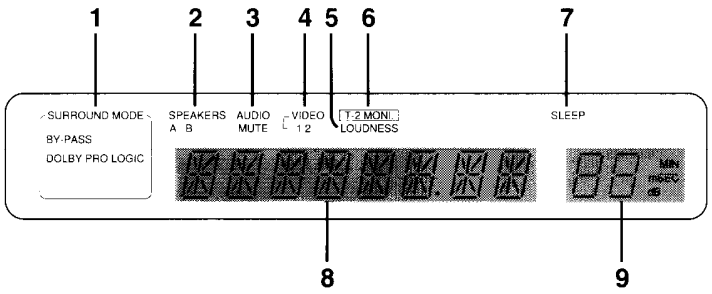
Front Panel



For more information about buttons or knobs, turn to page number listed in the [ ].

Front panel

1. **Speaker buttons [10]**
2. **Power button [10]**
3. **Stand-by/Received indicator [10]**
4. **Remote sensor**
5. **Loudness button [10]**
6. **Master volume knob [10, 16]**
7. **Headphone jack [11]**
8. **Dolby Pro Logic button [16]**
9. **Center Mode button [16]**
10. **Delay Time button [16]**
11. **Input Selector buttons [10, 12, 13]**
12. **Bass control knob [10]**
13. **Treble control knob [10]**
14. **Balance control knob [10]**

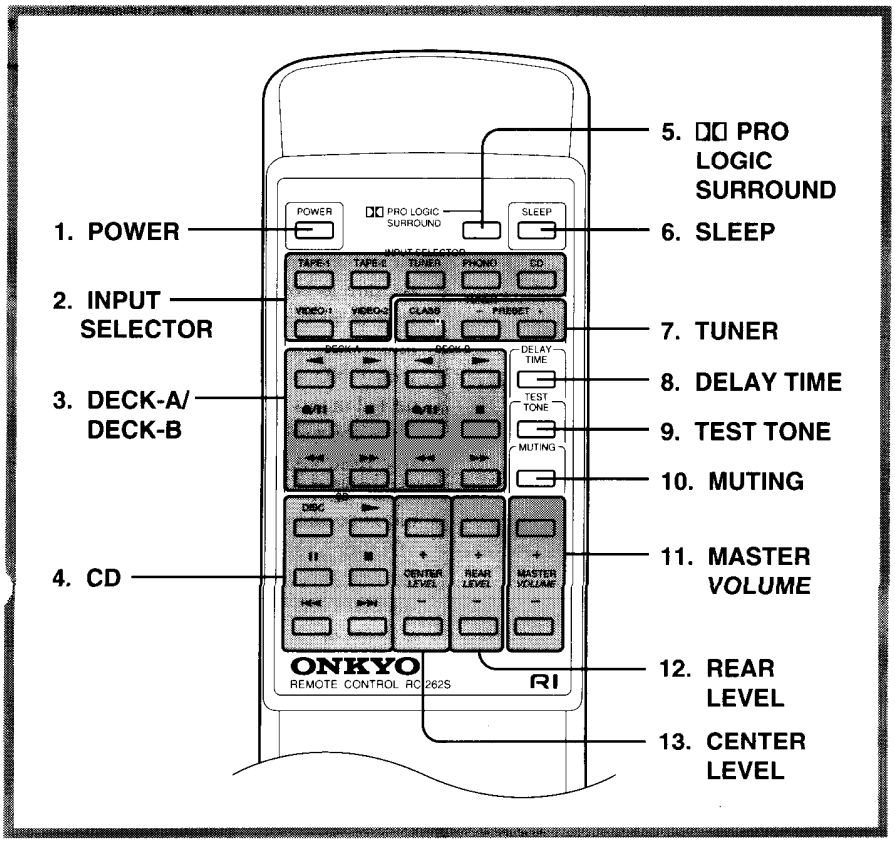


Display

If there is a protective film on the surface of the display, which is making it difficult to read the display, remove it.

1. **Surround Mode indicators**
2. **Speaker Selector indicators**
3. **Audio Muting indicator**
4. **Video Input Selector indicators**
5. **Loudness indicator**
6. **Tape-2 Monitor indicator**
7. **Sleep indicator**
8. **Multi Function Display (Input Selector)**
9. **Multi Function Display (Sleep Timer/Center, Rear Volume Level)**

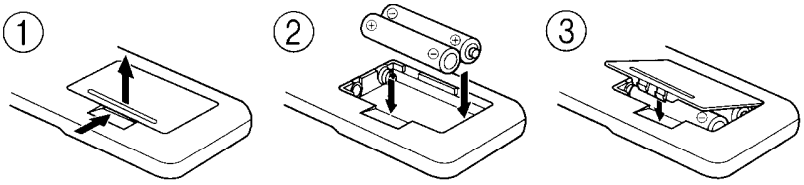
Before using this unit

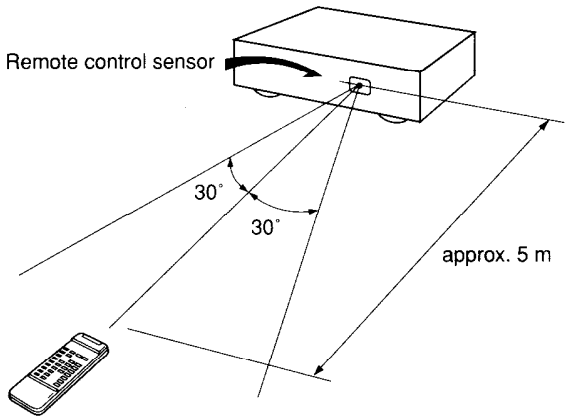


Remote Control

1. **Power button [10]**
2. **Input Selector buttons [10, 12, 13]**
3. **Tape Deck Operation buttons [17]**
4. **CD Operation buttons [17]**
5. **Dolby Pro Logic Surround button [16]**
6. **Sleep button [11]**
7. **Tuner Operation buttons**
8. **Delay Time button [16]**
9. **Test Tone button [16]**
10. **Muting button [11]**
11. **Master Volume Up/Down buttons [10, 16]**
12. **Rear Level Up/Down buttons [16]**
13. **Center Level Up/Down buttons [16]**

Insert the batteries into the remote control according to the illustration.





Regarding the batteries

Average battery life is about one year, depending upon the frequency of use and the environment (temperature and humidity) in which the remote control is used. Only use batteries of the kind specified in the table below.

Type	Voltage	Size
Manganese	1.5V	AA, R6 or UM-3

Warning

- Do not leave an expired battery in the case – it may leak or damage the remote control.
- Do not use nickel cadmium (rechargeable) batteries.
- Replace both batteries at once; do not use one old battery and one new battery.

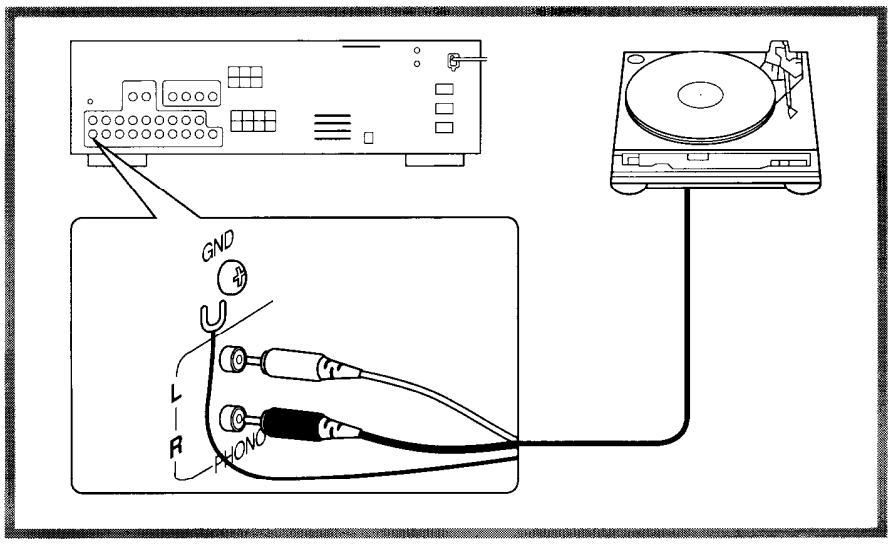
Using the remote control

The following information will help you get optimal use from the remote control.

- Place this unit away from direct bright light, which can prevent proper operation of the remote control.
- Make sure audio rack doors do not have tinted glass. If this unit is placed behind such a door, this may prevent proper remote control operation.
- Using other remote controls in the same room as this unit's remote control may cause interference.

Making system connections

- **Do not plug in the power cord until all connections have been made.**
- **On each pair of input jacks, the lower jack (marked R) corresponds to the right channel, and the upper jack (marked L) to the left channel.**
- **Please refer to the instruction manual of each component when making any connections.**

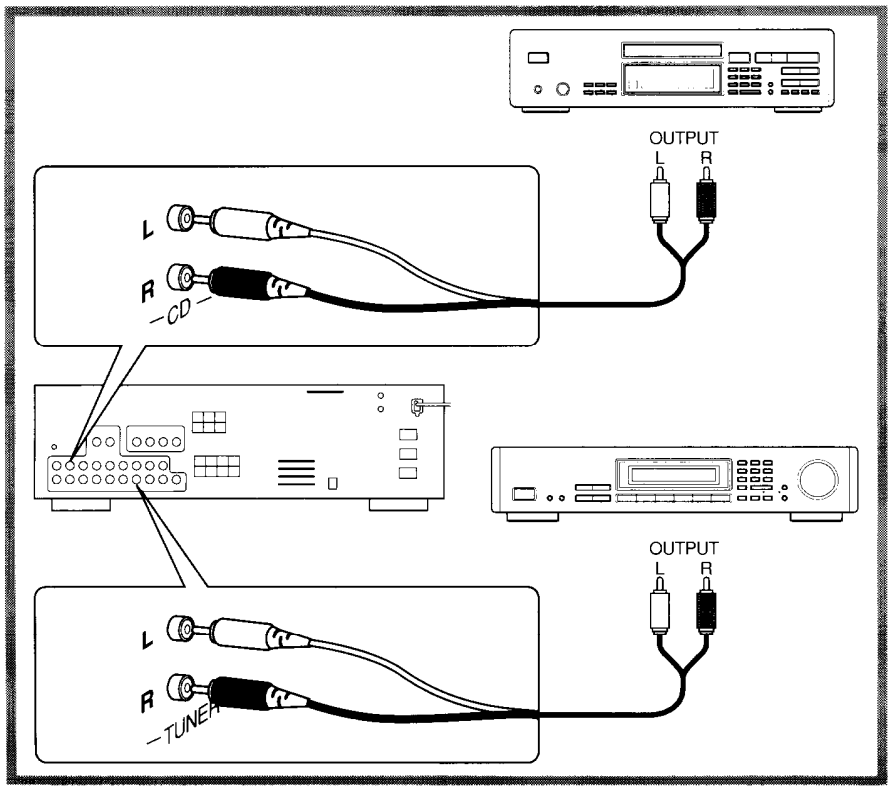


Connecting a turntable (PHONO)

Connect the output leads of the turntable to the PHONO jacks.

Be sure to connect the ground (earth) lead wire from the turntable to the ground terminal (GND). Turntables not provided with GND wires do not need to be connected in this way.

Place the turntable on a firm shelf or deck free from vibrations (especially those generated by the speaker system). If the turntable is permitted to pick up such unwanted vibrations, not only will the performance of the unit drop, but distortion in the low frequencies and howling in the speakers may also occur.

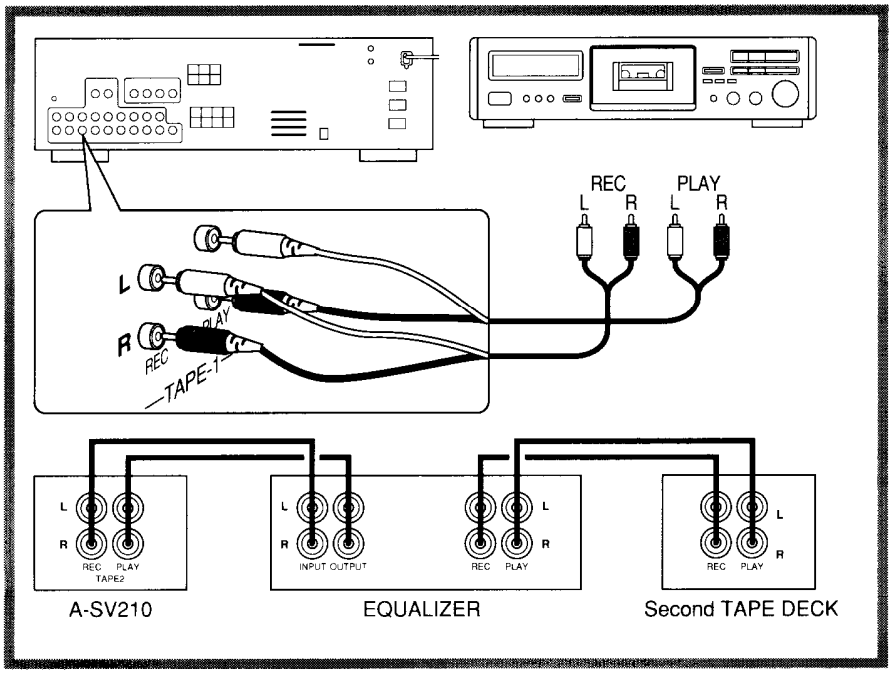


Connecting a CD (CD)

Connect a compact disc player to the CD input jacks.

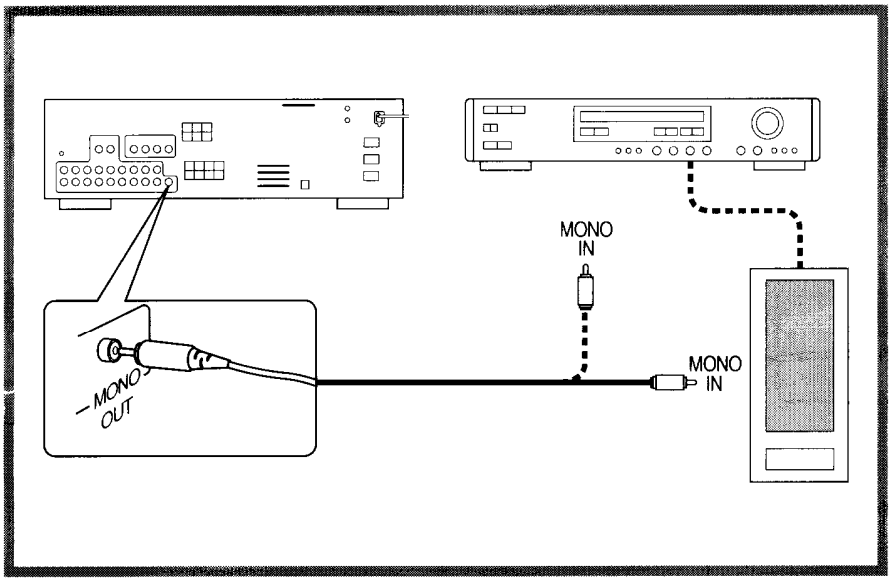
Connecting a tuner (TUNER)

Connect an FM/AM tuner to the TUNER input jacks.



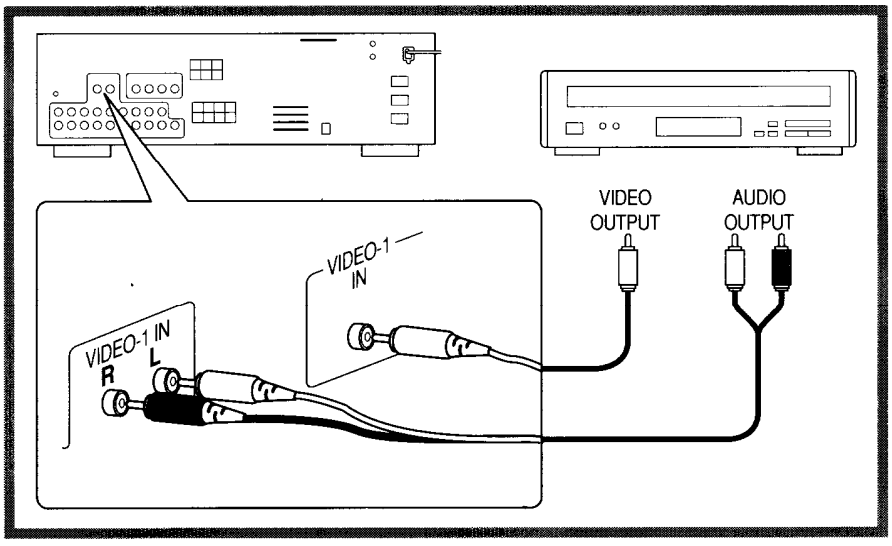
Connecting a tape deck (TAPE-1, TAPE-2)

This unit has facilities for two tape decks. If you are using only one tape deck, connect it to the TAPE-1 jacks. If you have two tape decks, connect one to the TAPE-1 jacks and the other to the TAPE-2 jacks.
If you wish to use a graphic equalizer as well as two tape decks, connect the graphic equalizer to the TAPE-2 jacks, and connect the second tape deck to the TAPE jacks on the graphic equalizer. (See the diagram.)
Connect the OUTPUT jacks on the graphic equalizer to the TAPE-2 PLAY jacks on this unit, and the INPUT jacks to the TAPE-2 REC jacks as shown.)
See page 13 on how to use a graphic equalizer.



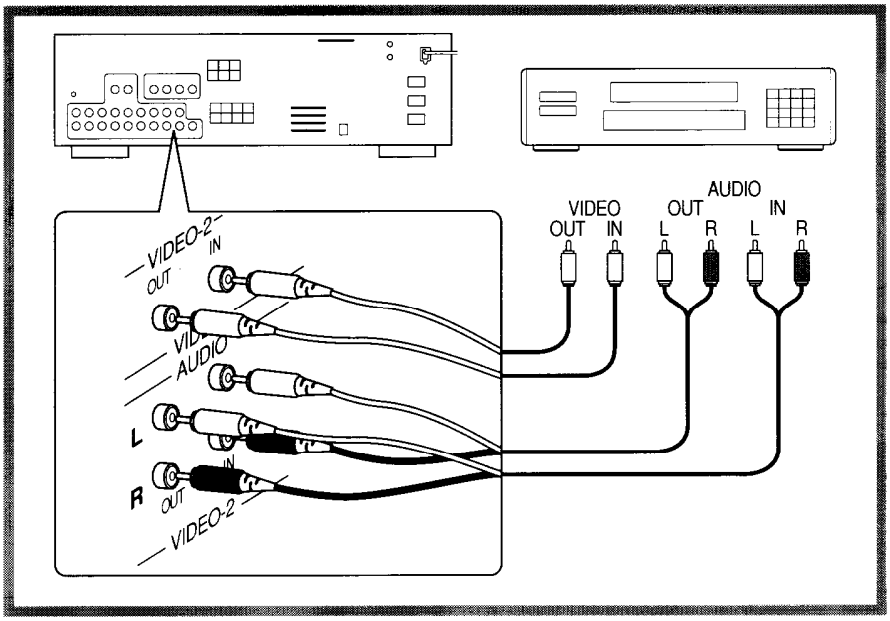
Using the MONO OUT jack

The MONO OUT jack can be connected to a subwoofer amplifier, or to a subwoofer with a built-in amplifier.
When using any unit connected to the MONO OUT jack, set the SPEAKERS A button on the front panel to ON.



Connecting a Video Disc Player or Video Cassette Player (VIDEO-1)

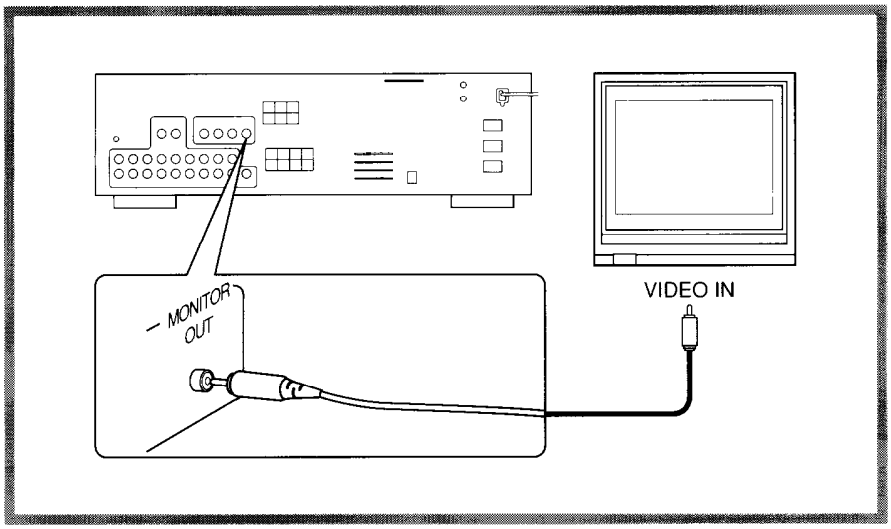
Connect the VIDEO output of the video disc player to this unit (VIDEO) VIDEO-1 "IN" jack and the AUDIO output to the (AUDIO) VIDEO-1 "IN" jack. The VIDEO-1 jack is only for playback, there is no OUT jack. For more details, refer to the video disc player instruction manual.



Connecting a Video Cassette Recorder (VIDEO-2)

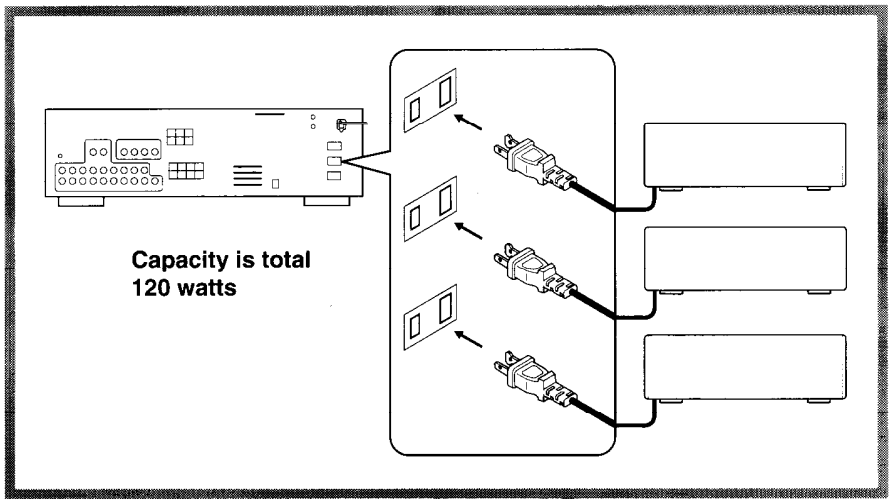
Connect the VIDEO output of the VCR to the rear panel (VIDEO) VIDEO-2 "IN" jack and the VIDEO input of the VCR to the rear panel (VIDEO) VIDEO-2 "OUT" jack. Then connect the AUDIO output of the VCR to the (AUDIO) VIDEO-2 L and R "IN" jacks. Finally, connect the AUDIO input of the VCR to the (AUDIO) VIDEO-2 L and R "OUT" jacks.

- When using a playback-only VCR, you only need to make the output connections.
- For more details, refer to the VCR instruction manual.



Connecting a monitor (MONITOR OUT)

1. Connect the TV VIDEO input to this unit MONITOR "OUT". jack. There is no need to perform an audio connection since sound will be sent directly from this unit to the speaker systems.
2. This unit can be used with only a monitor TV equipped with a video input jack.
3. Interference may be caused between the TV and this unit.
   If this interference occurs place this unit and the TV as for apart as possible.

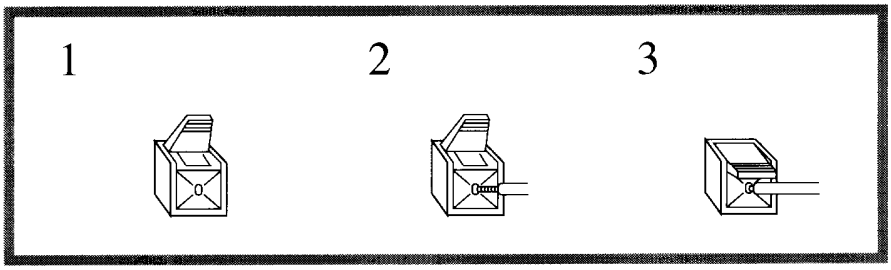


AC outlets

The SWITCHED outlet is switched on and off by the power buttons on the front panel and remote control.

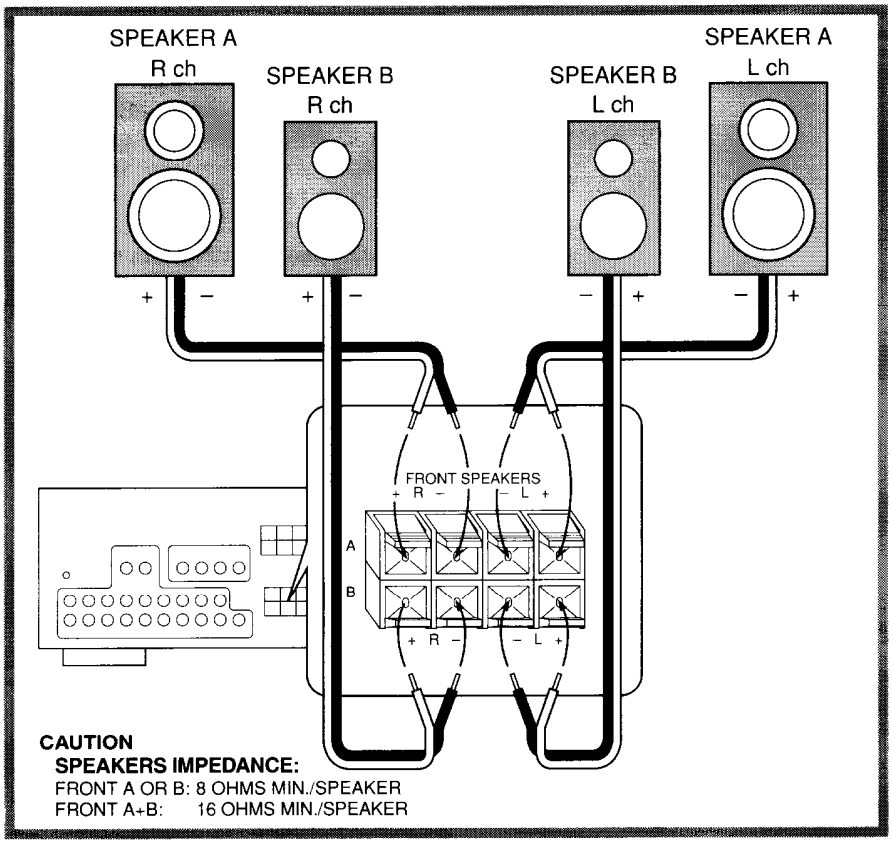
Be careful that other components connected to this unit do not exceed the capacity that is printed on the rear panel above the AC outlets.

Making speaker connections



Connecting the speaker cables

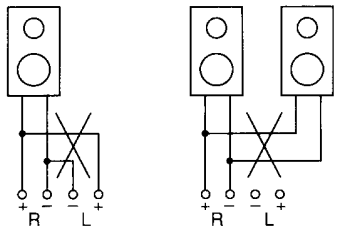
1. Press down the lever.
2. Insert wire.
3. Return the lever.

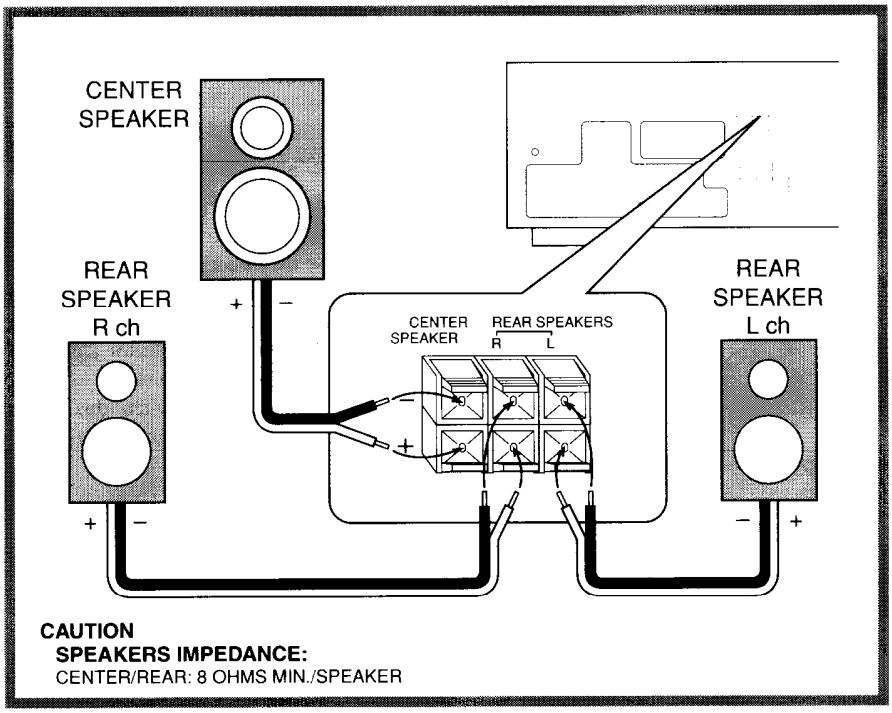


Connecting the front speaker

You can connect two separate pairs of speaker systems.
Please connect each speaker according to the illustration, observing the correct connections for R, L, + and –.

- Do not use unnecessarily long or extremely thin speaker leads. If the DC resistance of the speaker leads is too high, the damping factor will decrease, adversely affecting the sound quality.
- When using only one speaker or when you wish to listen to monaural (mono), the single speaker should never be connected in parallel to both the right and left channel terminals at once.

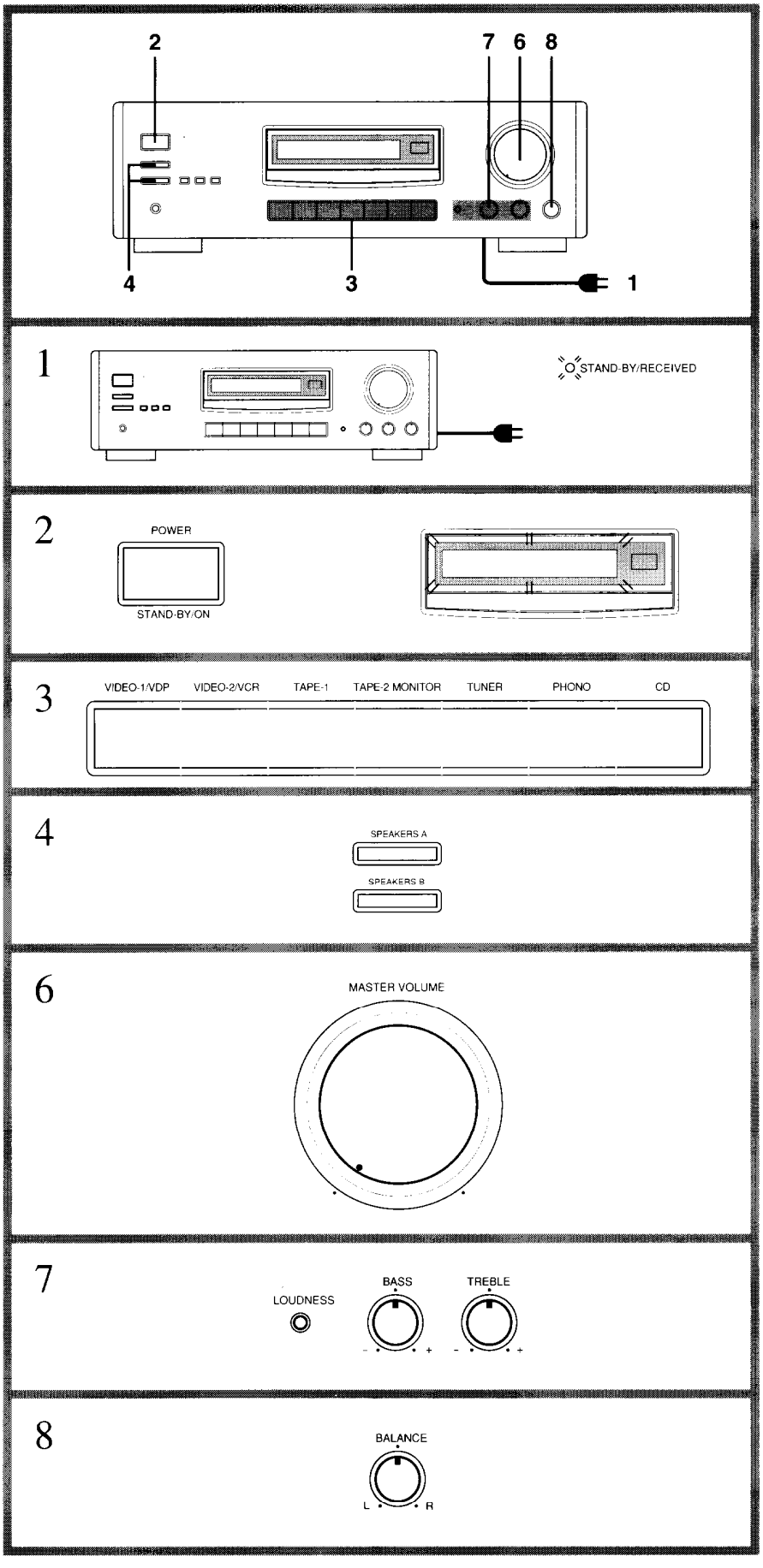




Connecting the center and rear speakers

Connect the center speaker and rear speakers (R) (L) to this unit.

Basic operations



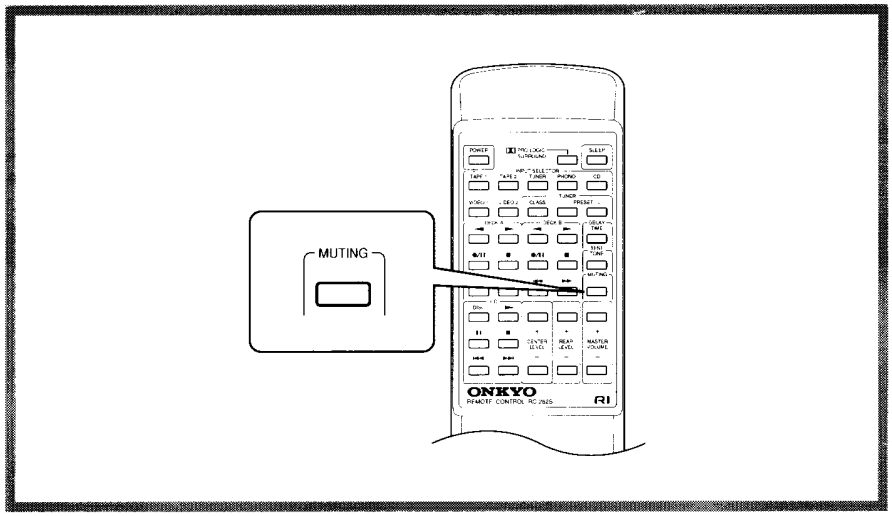
Selecting and listening to source

Before plugging in the unit, confirm that all connections have been made properly.

1. **Insert the AC power supply cord into the wall outlet.**
2. **Press the POWER button.**
3. **Select the source you wish to listen to using the input selector.**
4. **Select the speakers.**
   Select and press the button for the speakers that you want to listen to (SPEAKERS A and/or SPEAKERS B). You will hear from the speakers any sound going through this unit. If both SPEAKERS (A and B) are set to OFF, no sound will come from the speakers.
5. **Start play the selected input source.**
   Follow the operating instructions for that unit.
6. **Adjust the level.**
   Turn the MASTER VOLUME knob clockwise or press the UP button on the remote control to increase the volume level. Turn counterclockwise or press the DOWN button on the remote control to decrease the volume level.
7. **Adjust to your desired tone.**
   BASS: Turn right to boost or left to attenuate the bass.
   TREBLE: Turn right to boost or left to attenuate the treble.
   LOUDNESS: By pressing the LOUDNESS button, both treble and bass are boosted even when the volume is turned down low. Use this button according to the music source, the listening area and the listening level.
8. **The BALANCE knob is used to control the relative volume level of the left and right speaker systems or headphones.**

The direct function feature

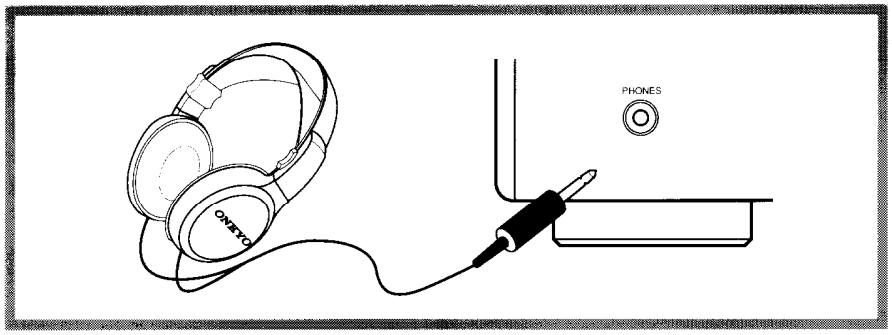
When a compact disc player, and tape deck with the **R I** mark are connected together, you can use the direct function feature.
Simply by directly operating the desired component (compact disc player or tape deck), this unit's Input Selector automatically switches to that component.
It is not necessary to switch this unit's Input Selector when changing listening sources.



Temporary Muting

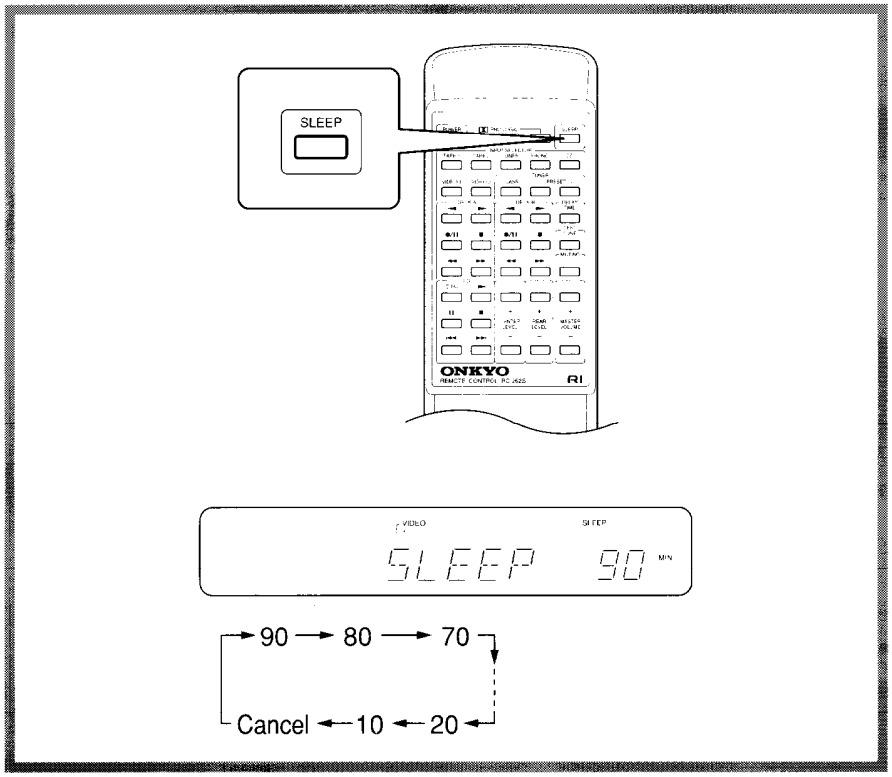
Press the MUTING button on the remote control.
This button temporarily switches off the sound from the speakers or headphones.
The AUDIO MUTE indicator will flash.
The muting function will be cancelled if you:

- press the MUTING button again, *or*
- turn the power off then on.



Listening using the headphones

Stereo headphones with a standard binaural (stereo) plug can be connected here.
When the headphone plug is inserted, the speakers are not automatically muted but can be controlled with the SPEAKERS A/B buttons.



Sleep facility

The sleep timer can power off the system after a specified time period.
To operate this function, use the remote control supplied with this unit.

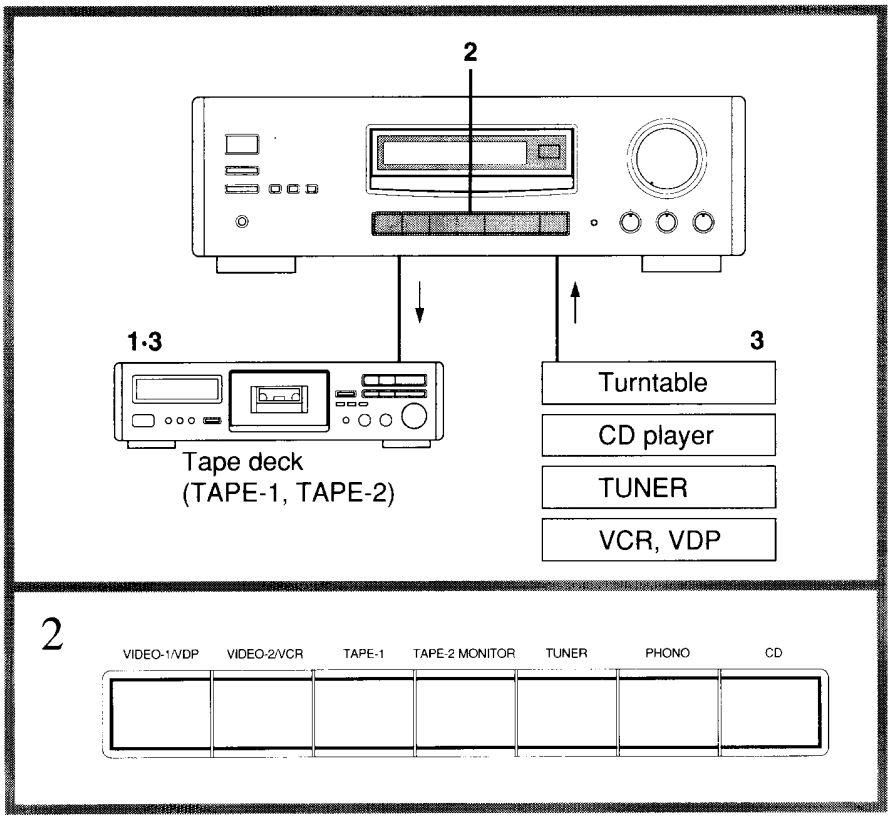
1. **Start the source playing that you would like to listen to. (CD, Tape or radio broadcast)**
2. **Set the amount of time after which you want the system to turn off.**

The sleep timer works for up to 90 minutes. You can shorten the timer by 10 minutes increments by pressing the SLEEP button until the desired time has been reached.
When the set time comes, the power will be switched off automatically

Cancelling the SLEEP setting

Press the SLEEP button until it changes to the source display you are listening to.
or
The timer can also be cancelled while it is in operation, by turning off the power

Recording a source

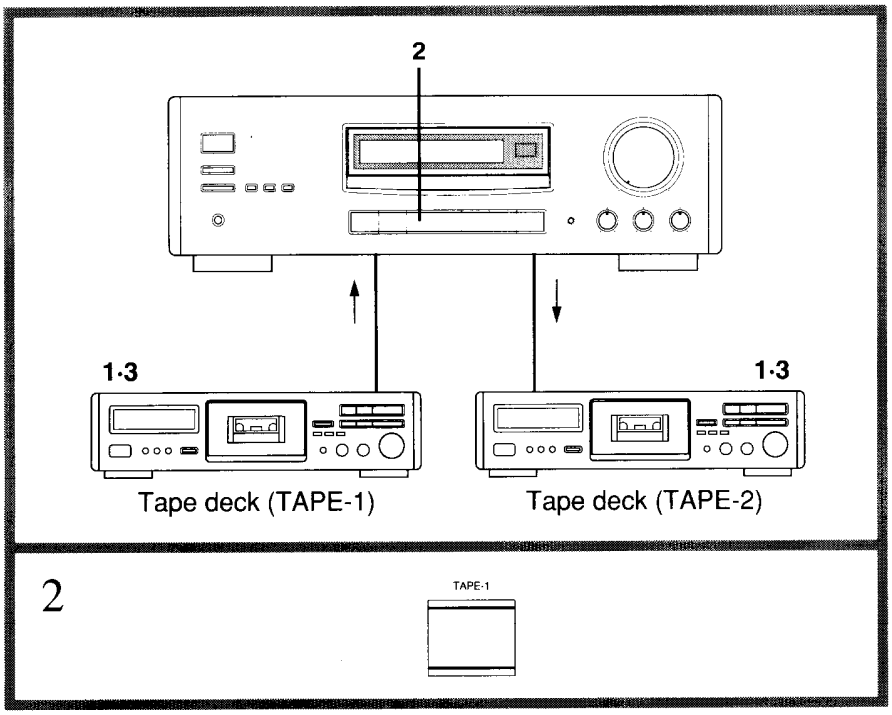


Recording an audio source

Please read the instruction manuals concerning the operation of each unit.

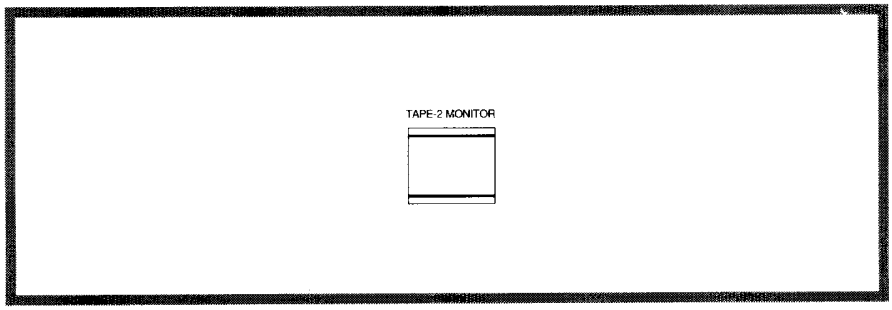
1. **Insert a blank tape into the tape deck.**
2. **Press the button of the source from which you want to record.**
   - When VIDEO-1/VDP or VIDEO-2/VCR is selected, it will (naturally) only record the audio.
   - When TUNER is selected, set the tuner to the station you want to record from.
   - When TAPE-1 is selected, it will record to the TAPE-2 REC jacks.
   - When either VIDEO-1/VDP, VIDEO-2/VCR, TUNER, PHONO or CD is selected, you are able to record to both the TAPE-1 and TAPE-2 REC jacks.
3. **Put the tape deck in the recording mode. Begin playing the source.**

Set the proper recording level using the controls on the tape deck used for recording. Also, during recording and dubbing operations, if any controls (bass, treble etc.) on this unit are changed during recording and dubbing operations, the tone effects will not change.



Tape to tape dubbing

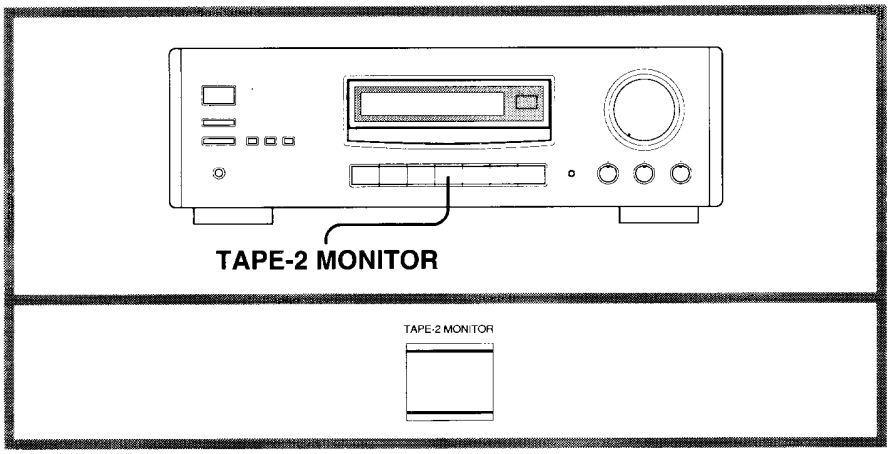
1. **Load the original tape in deck 1 and the blank tape in deck 2.**
2. **Press the TAPE-1 button.**
3. **Put tape deck 1 in the playback mode and tape deck 2 in recording mode.**



Monitoring

The source signal can be monitored through the speakers or headphones when TAPE-2 MONITOR is turned off.

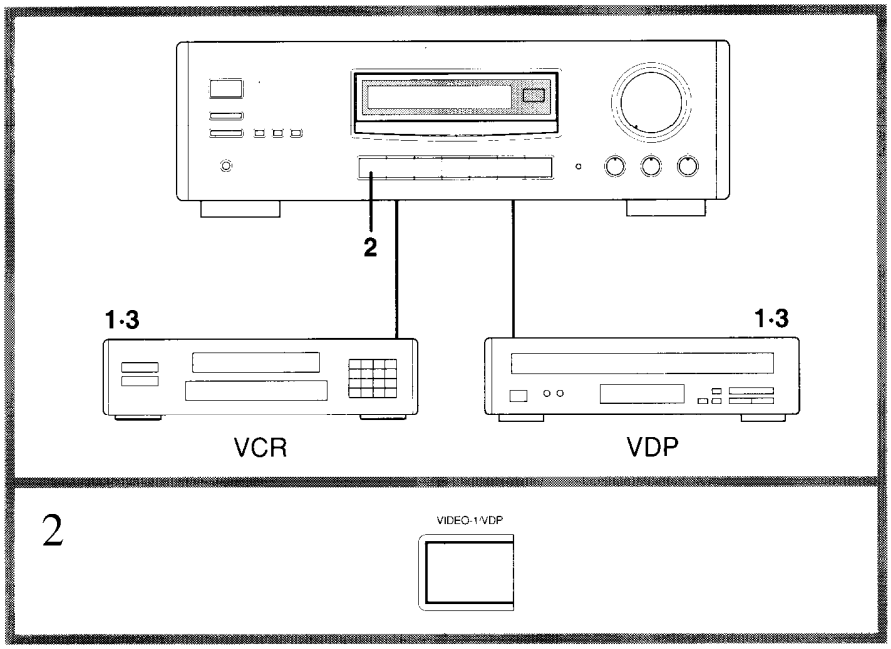
If tape deck 2 has three heads, the just-recorded signal can be monitored (when the TAPE-2 MONITOR is turned on). Refer to the tape deck instruction manual for more details.



Using a graphic equalizer

Connect the graphic equalizer to the TAPE-2 jacks on the rear panel.
If a second tape deck is used, connect it to the tape jacks on the graphic equalizer. Also see "Connecting a tape deck" on page 7 when making connections.

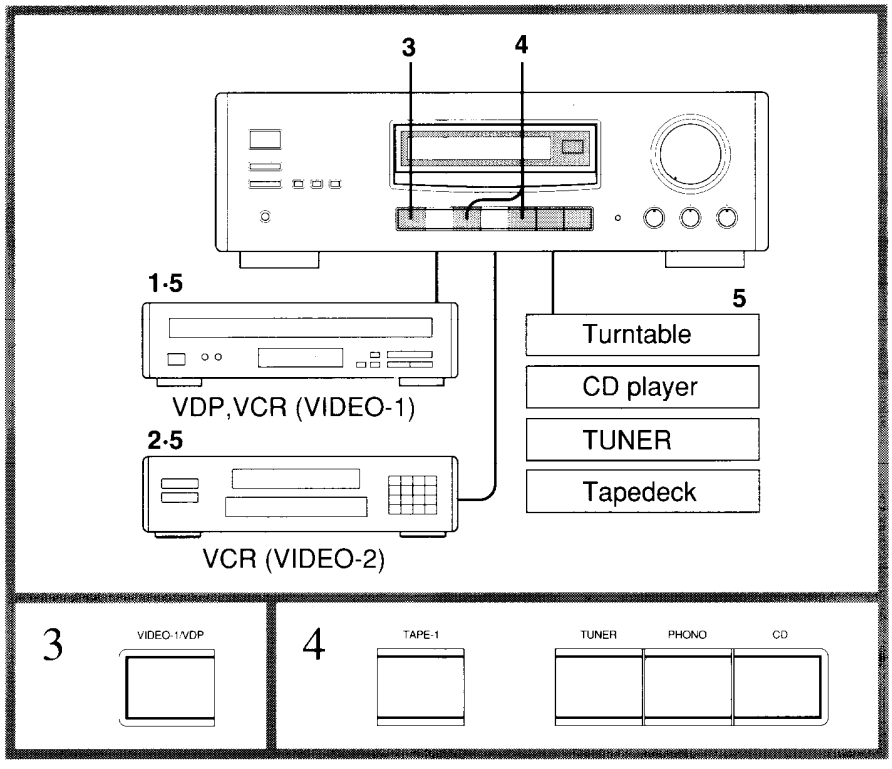
Press the TAPE-2 MONITOR button.
Follow the graphic equalizer operating instructions.
To record an equalized signal, use tape deck 2 (connected to the equalizer) for recording.



Video disc player (or video camcorder) to VCR recording

Video disc programs can be recorded onto a VCR (VIDEO-2).

1. **Load a disc in the video disc player, and a blank tape in the VCR (VIDEO-2).**
2. **Press the VIDEO-1/VDP button.**
3. **Begin playback on the video disc player and recording on the VCR.**



Adding new sound to a video tape during video editing

During video tape editing, you can add the desired sound on the recording VCR from various audio program sources.

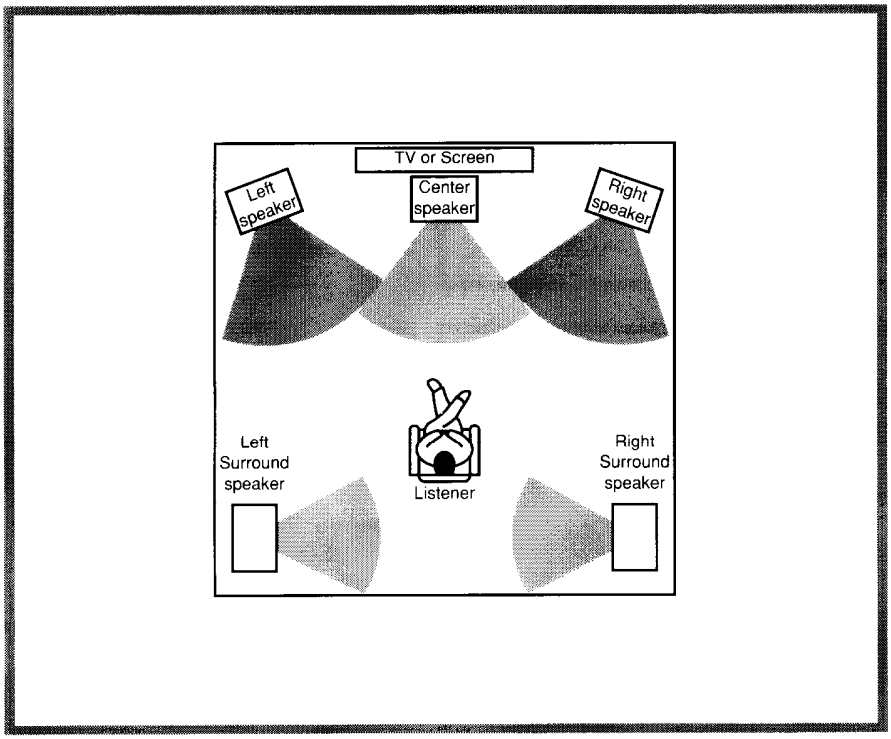
1. **Insert the LD or tape that you want to record into the VDP or VCR connected to VIDEO-1.**
2. **Insert a blank video tape in the VCR connected to VIDEO-2.**
3. **Press the VIDEO-1/VDP button.**
4. **Select the audio program source (TAPE-1, TUNER, PHONO, CD)**
5. **Begin playback of the video connected to the VIDEO-1 and also start the sound source, then start recording on the VIDEO-2 VCR.**

Refer to the video disc player, video camcorder or VCR instruction manuals for additional information.

Dolby Pro Logic Surround

Surround system

Since the A-SV210 is equipped with a front amplifier, center amplifier and a rear (surround) amplifier, Dolby Pro Logic Surround effects can all be produced. When you using video cassette tapes or video discs that have the DOLBY STEREO or DOLBY SURROUND trade mark, you can enjoy the feeling of a movie theater in your own room. When reproducing these effects, placement of the rear (surround) speakers is important for optimum sound quality in your room.



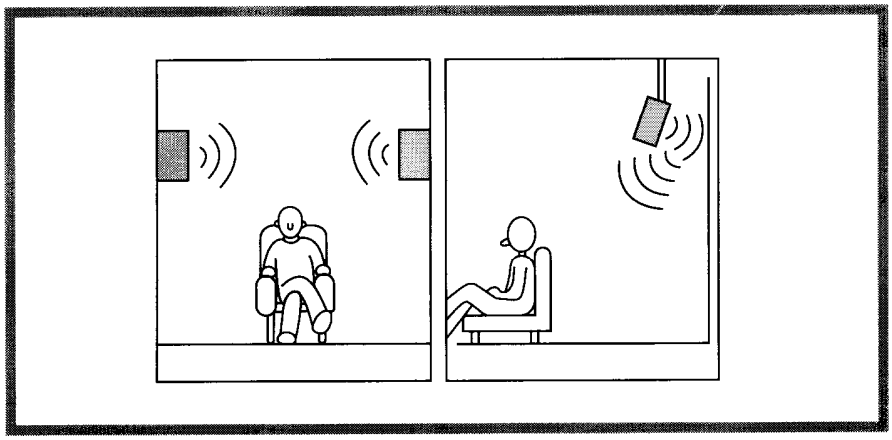
Placing the speakers for Surround effects

Speaker placement plays an important role in the reproduction of sound using Surround. The manner in which the speakers are placed varies depending on the size of the room and the wall coverings used in the room. The following shows an example of a layout for standard speaker placement. Refer to the example for placing the speakers appropriately in order to experience the best Surround sound.

In principle, for Surround sound reproduction, two Front speakers and two Surround (Rear) speakers are required. Refer to the illustration on the left.

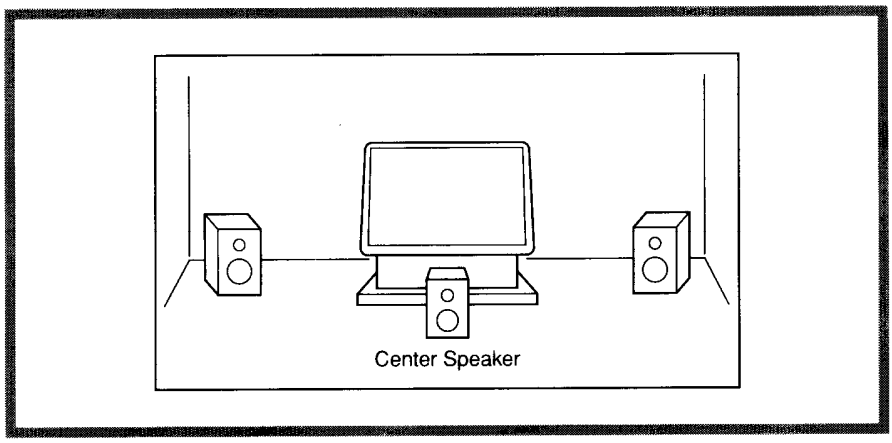
Placing the front speakes

If the Front L and R speakers are placed too far away from each other, sound spreads out too much and is dispersed resulting in diminished sound quality.



Placing the rear speakers

To bring out the feeling of shifting sound, the rear speakers should not be placed on the floor, but would be most effective placed above ear position. They can also be placed facing the ceiling or walls to reflect the sound.

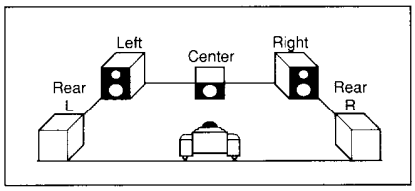


Placing the center speaker

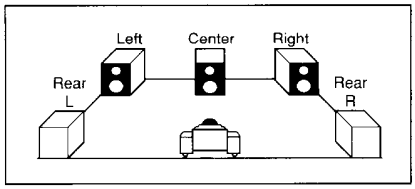
To enjoy Dolby Pro Logic Surround reproduction, a center speaker is required in addition to the four basic speakers.

If a screen with a projector is used, place the center speaker under the screen. If a Monitor TV is used, it is recommended that the center speaker be placed on top of or under the Monitor.

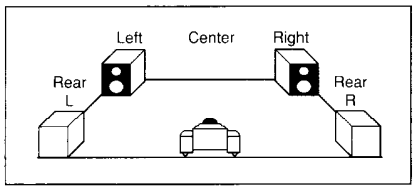
NORMAL:



WIDEBAND:



PHANTOM:



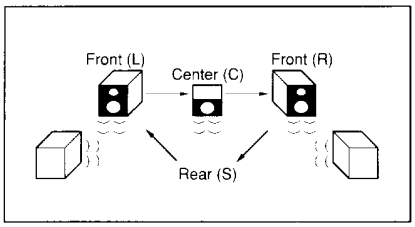
Center Mode

NORMAL: Use this setting when using a Center speaker smaller than the L and R stereo speakers. The center speaker will not be sent any signals containing frequencies below 100 Hz, and these low-frequency signals will be split between the Front L and R speakers.

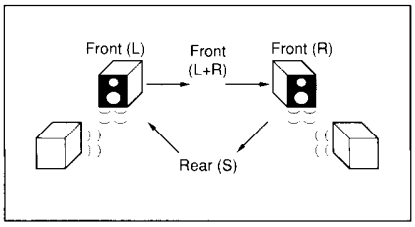
WIDE BAND: Use this setting when using a Center speaker similar to the L and R stereo speakers in size and power. The center speaker will receive the full frequency range.

PHANTOM: Use this setting when a Center speaker is not present. The sound that would have been sent to the Center speaker will be split between the Front L and R speakers, producing a similar result.

NORMAL or WIDEBAND



PHANTOM



Test Tone

Use the test tone to adjust the volume level of each of the speakers before enjoying Dolby Pro Logic Surround.

Pink noise is produced by each speaker in turn so you can match the volume levels of the front, center and rear speakers.

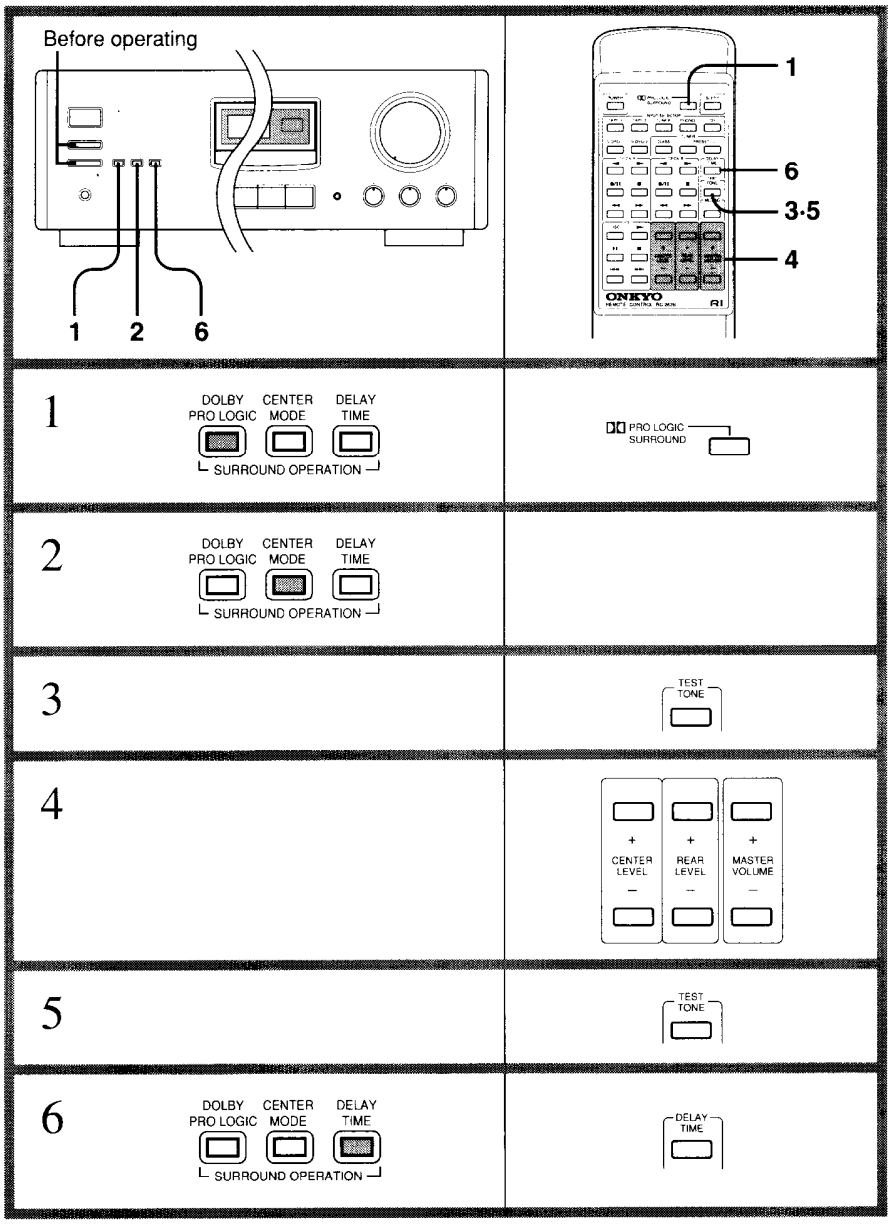
The test tone sequence

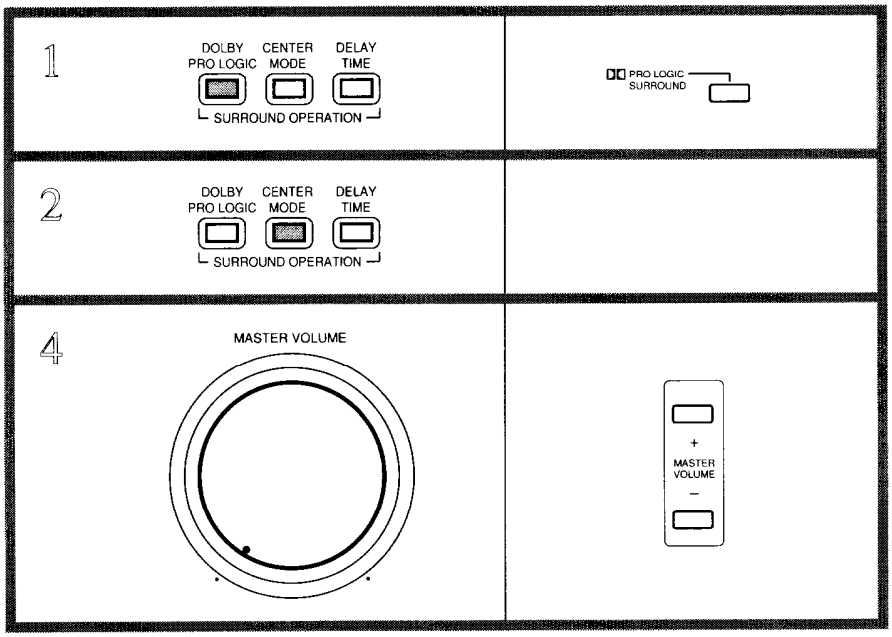
1. **When the center mode is set to NORMAL or WIDEBAND**
   The test tone will be output automatically from the Front (L), Center, Front (R), and the rear speakers in succession.
2. **When the center mode is set to PHANTOM**
   The test tone will be output automatically from the front (L), Front (L and R), Front (R) and the rear speakers alternately.

Delay Time

Adjustable delay time allows you to tailor the acoustic size of your listening environment to the sonic characteristics of the audio program, because a short delay in the audio signal coming from the rear speakers gives the impression that it had to travel a longer distance to reach the listener, hence a larger room or hall.

Dolby Surround delay time is specified at 20 msec. It is recommended that initial Dolby Surround delay be set at 20 msec, but adjustment from 15 to 30 msec is possible.





If there are differences in the volume levels of the speakers when enjoying Dolby Pro Logic Surround, you will not be able to get the best effect. You should use the test tone to adjust all the speakers to the same volume level.

Before operating: Be sure to turn off SPEAKERS B and turn on SPEAKERS A when enjoying Dolby Pro Logic Surround.

Adjusting the speaker volume

1. **Turn on Dolby Pro Logic.**
2. **Choose the Center mode.**
   When the button is pressed, the mode will change as shown below.

   →NORMAL → WIDEBAND → PHANTOM→

   Please refer to the 15 page for details of these modes.
3. **Press the TEST TONE button on the remote control.**
   Please refer to the 15 page for details.
4. **From your listening position, adjust the relative volume level of the test tone from the different speakers, on the remote control.**
   - Adjust the volume levels of all of the speakers with the + and – MASTER VOLUME buttons.
   - Adjust the volume levels of the center speakers with the + and – CENTER LEVEL buttons.
   - Adjust the volume levels of the rear speakers with the + and – REAR LEVEL buttons.
5. **Press the TEST TONE button and stop the pink noise.**
6. **Set the delay time.**
   When the button is pressed, the delay time will change as shown below.

   20 → 25 → 30 → 15

   Please refer to page 15 for details.

Enjoying Dolby Pro Logic

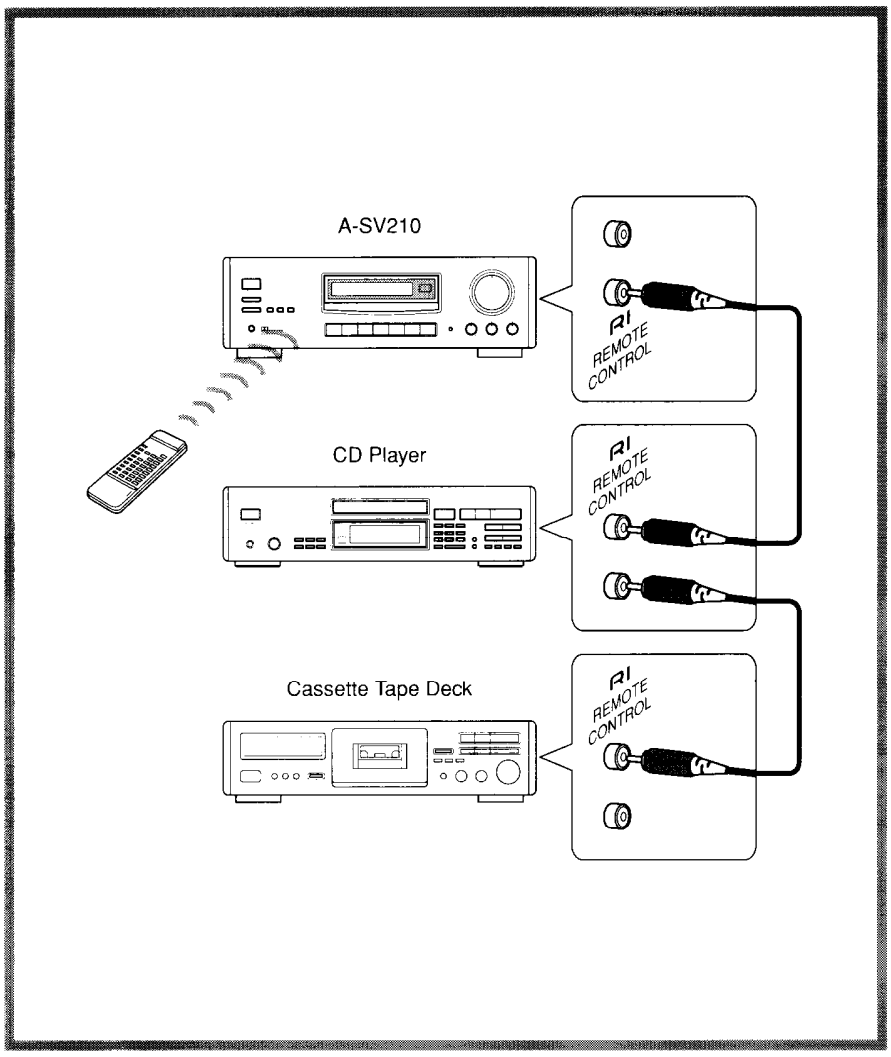
1. **Set the Dolby Pro Logic Surround mode.**
2. **Select the center mode.**
3. **Play a sourse encoded with Dolby Surround.**
4. **Adjust the master volume.**

NOTE:

- TREBLE and BASS are effective for the L and R front speakers. The best effect from DOLBY PRO LOGIC SURROUND can be obtained when equal settings are used for the sound from the L and R front speakers and the center speaker for the middle and treble ranges.
- LOUDNESS is not effective for the Dolby Pro Logic Surround mode.

Connecting Onkyo components for RI operation

When Onkyo products with the RI mark are connected to the main component, you are able to operate each component with the remote control of the main component. This means you can control your whole system with just one remote control.



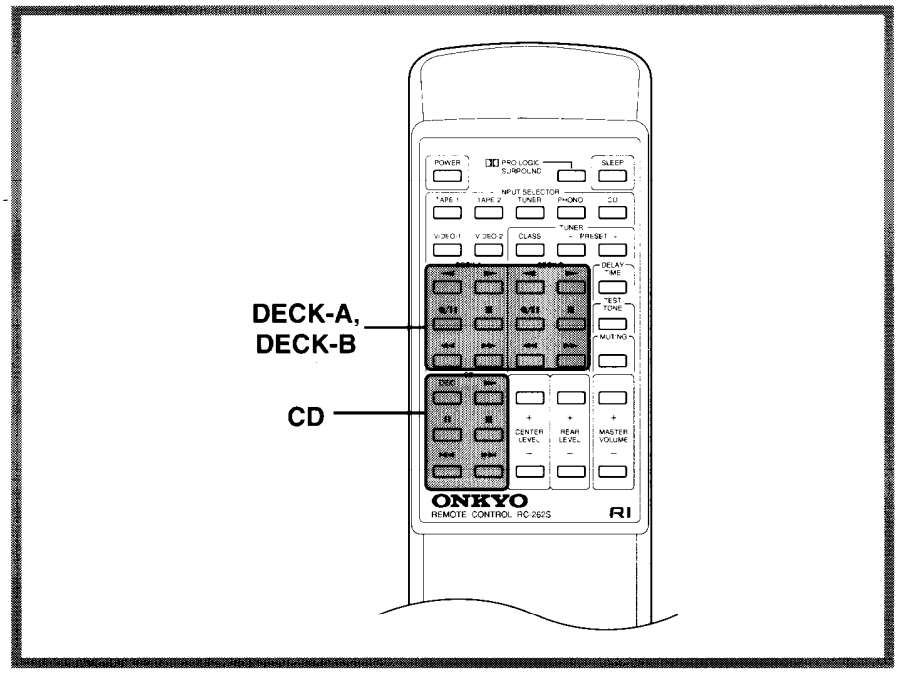
Connections for remote control (RI)

When connecting Onkyo products, it is necessary to attach an RI cable to be able to use the remote control of the main component to control the entire system.

1. To use an Onkyo compact disc player and cassette tape deck with the RI mark with this Tuner Amplifier, insert the remote control cable plugs into the REMOTE CONTROL jacks as shown.
2. As the exact connection sequence of the RI cable is unimportant, you can connect from this unit to either the cassette tape deck or to the compact disc player.
3. To operate this system, the remote control must face towards the remote control sensor of this unit.

NOTES:

- The upper and lower RI remote control jacks have the same function.
- A cassette tape deck, and compact disc player that have the Onkyo RI mark can be operated using the accessory remote control.
- Remote control operation is not possible when only the remote control cable is connected – the audio cables must also be connected.
- An RI remote control cable equipped with a 1/8" (3.5mm) diameter miniature two-conductor phone plug is included with compact disc player with the RI mark.



When you have made the connections mentioned above, you will be able to the use the following buttons.

1. **Tape deck operation buttons (DECK-A, DECK-B)**
   - ◄ : Reverse play button
   - ► : Forward play button
   - ◄◄ : Fast rewind button
   - ►► : Fast forward button
   - ■ : Stop button
   - ●/II : Rec/pause button

   * When only a single deck is used, operate DECK-B.
2. **CD player operation buttons (CD)**
   - ■ : Stop button
   - II : Pause button
   - ► : Play button
   - ⏮ : Down button
   - ⏭ : Up button
   - DISC : Disc button for CD changer

Trouble shooting guide

If a problem occurs, first operate the unit using the front panel controls to confirm that it is not due to a malfunction (or expired batteries) of the remote control.

Trouble	Cause	Remedy
No power.	• Power cord is disconnected. • There is external noise in the computer circuits of this unit. • AC fuse blown.	• Connect power cord. • Turn the power button off and then on again or remove the AC plug from the outlet. • Contact your Onkyo Service Center.
Power but no sound.	• TAPE-2 MONITOR button is on. • MUTING button is on. • Bad/incorrect connections. • Amplifier protection circuitry has been activated. ('PROTECT' will be displayed.)	• Switch to off. • Switch to off with the remote control. • Check input leads, speaker leads, pin plugs, etc. • Contact your Onkyo Service Center.
No sound from the Center speaker, or very minimal sound.	• Speaker cord is not corrected. • DOLBY PRO LOGIC is not on. • Center level is set to minimum. • Center Mode is set to PHANTOM.	• Check the connection between the amplifier and the speaker. • Turn it on. • Set the Center level to the appropriate volume. • Set Center Mode to NORMAL or WIDEBAND.
Hum, low-frequency noise.	• Poor or no input ground. • Poor or no phono motor ground. • The placement of the input/output cables on the rear panel is incorrect.	• Check outer conductor of input plugs. • Check for proper ground connection. • Adjust the placement of the cable to reduce hum.
Howling when the volume is turned up.	• Turntable and speakers are too close together.	• Move them farther apart.
Rough or scratchy sound. High range is not clear.	• Stylus of turntable pick-up is worn. • Turntable stylus tip is dirty. • Treble control too high.	• Replace. • Clean. • Turn treble control down.
Front panel controls function but remote control does not.	• No batteries in remote control. • Batteries have worn out.	• Insert batteries. • Replace batteries.

• Also refer to the respective instruction manuals of the Video Disc Player, video cassette recorder, TV monitor, etc., being used.

Specifications

AMPLIFIER SECTION

Power Output:

Stereo mode

Front L/R channels

100 watts per channel min. RMS. at 8 ohms, both channels driven, from 40 Hz to 20,000 Hz, with no more than 0.08% total harmonic distortion.

Surround mode

Front L/R and center channels

60 watts per channel min. RMS at 8 ohms, with no more than 0.08% total harmonic distortion at 1,000 Hz

Rear channels

15 watts per channel min. RMS at 8 ohms, with no more than 0.3% total harmonic distortion at 1,000 Hz

Total Harmonic Distortion: 0.08% at rated power (FRONT)

IM Distortion: 0.08% at rated power (FRONT)

Damping Factor: 50 at 8 ohms (FRONT)

Sensitivity and Impedance:

Phono:	2.5 mV/50 kohms
CD/Tape Play:	150 mV/50 kohms
Tape Rec:	150 mV/2.2 kohms
Mono out (SUBWOOFER):	1V 2.2 kohms

Phono Overload: 120 mV RMS. at 1,000 Hz, 0.5% THD.

Frequency Response: 20 to 30,000 Hz, +/–1 dB

RIAA Deviation: 20 to 20,000 Hz, +/–0.8 dB

Tone Control:

BASS:	+/–10 dB at 100 Hz
TREBLE:	+/–10 dB at 10,000 Hz

Signal to Noise Ratio:

PHONO:	80 dB (IHF A, 5 mV input)
CD/TAPE:	100 dB (IHF A)

VIDEO SECTION

Signal sensitivity and impedance:

VDP/VCR input, output: 1 Vp-p, 75 ohms

General

Power Supply: AC120 V, 60 Hz

Dimensions (W × H × D): 455 × 150 × 331 mm
17-15/16" × 5-7/8" × 13-1/16"

Weight: 9.8 kg (21.6 lbs.)

Specifications and features are subject to change without notice.

ONKYO CORPORATION

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